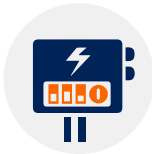


MODELING FAULT CURRENT WITHOUT UPSTREAM EQUIPMENT DATA

Pioneer Power Group was contracted by a client to produce a series of studies for new electrical equipment which would be installed downstream of existing equipment. Three studies were to be completed:



A short circuit study to ensure that new electrical equipment is rated properly for the short-circuit currents that are available in the distribution system.



A coordination study to optimize any adjustable settings pertinent to new electrical equipment location.



An arc flash study to determine arc-flash incident energy levels at the new electrical equipment location to ensure personnel may work safely on the equipment.

► CHALLENGES



Typically, Pioneer Power Group creates a utility transformer model to establish the available fault current in an overall system. In order to calculate this, access is required to the existing equipment upstream of any new equipment to be installed. This however wasn't a typical situation, and our engineering team was told we would not have access to the existing equipment upstream. While this was an unexpected complication, our team took it in stride and started developing other ideas that could work.



Shortly after the team completed an assessment of project solutions, we reached out to the client and explained the solutions generated and discussed the pros and cons of each. Every option was detailed to the client with step-by-step discussions of project implications. From these collaborative meetings, a few ideas emerged - including the use of an infinite bus assumption at the panels, securing information on the existing equipment from the contractor that was responsible for equipment installation and determining whether an existing fault current study had been done previously. In addition, through our teams' great efforts we were successful in locating an earlier study with fault current information.

CONTACT US:



(301) 569-7931



info@pioneerpwr.com



www.pioneerpwr.com

▶ OUR SOLUTION



After reviewing the earlier study published on the upstream equipment, our team decided to use the fault current data therein to build conservative assumptions. Based on the assumptions, the engineer was able to extrapolate the data necessary to proceed with the coordination, short circuit and arc flash studies for the new installation.

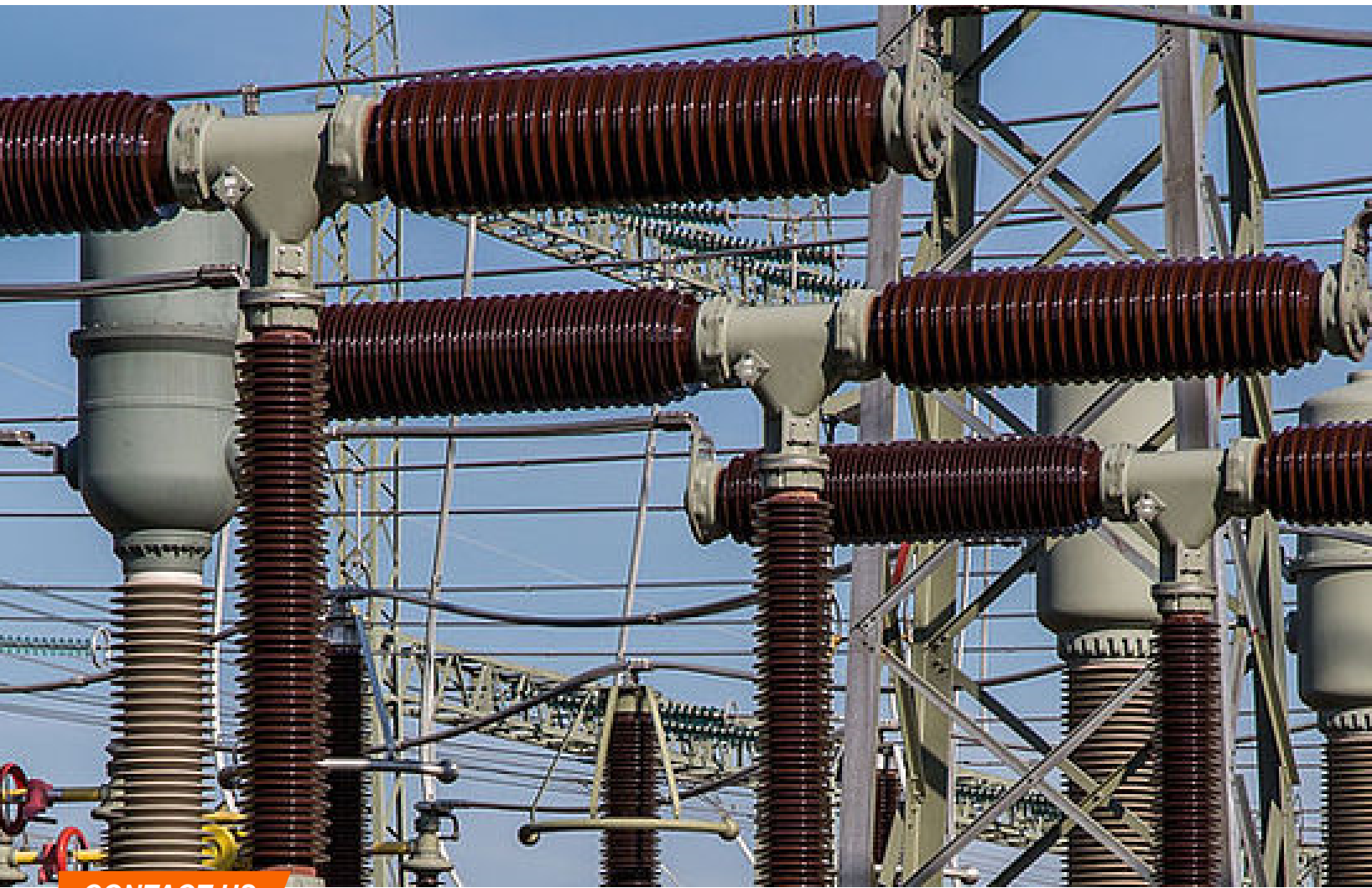
▶ RESULTS



By applying the assumptions, the Pioneer Power Group team was able to model the new system in order to evaluate the new electrical equipment. Using this approach, the new equipment was set up without being overly conservative, yet well within the safe limits of a worst-case-scenario.



Fortunately, Pioneer Power Group has experience helping clients that do not always have control over the information available to them. Using innovative solutions, creative and rapid problem solving, a wealth of knowledge coupled with the right attitude, we can create accurate assumptions for your location and drive projects to deliver a successful outcome.



CONTACT US:



(301) 569-7931



info@pioneerpwr.com



www.pioneerpwr.com